

CURRENT INDUSTRIAL REPORTS SERIES

2010

MA335J — INSULATED WIRE & CABLE (SHIPMENTS)

DEFINITIONS AND SPECIAL INSTRUCTIONS

1. Scope of survey

This survey covers establishments manufacturing and fabricating insulated wire & cable and/or apparatus wire and cordage with a copper/copper clad or aluminum/aluminum clad core. This survey also includes optical fiber cable.

2. Figures to be reported

Companies with more than one establishment manufacturing the products covered by this survey are requested to complete a separate report form for each location. If you have not received a separate form for each of your establishments, please call the contact shown on the report form or write to U.S. Census Bureau for additional forms.

If you manufacture apparatus wire and cordage, you should report:

If you buy wire and insulate it and/or
If you buy wire already insulated,

You should report all shipments (including both domestic and export) of insulated or covered wire and cable for transmitting electrical energy, signals, or communication.

Exclude bare and tinned wire & cable and ACSR.

Report interplant transfers for those shipments "shipped" for use by your own company; an affiliate, subsidiary, or parent company. The interplant transfer figure should be included with "total shipments including interplant transfers".

Exclude resales — products bought and sold without further manufacture.

The value of the products shipped should be based on the net selling value, f.o.b. plant, after discounts and returns and allowances. Freight charges and excise taxes should be excluded.

Be sure to sum all of the items designated under the indicated product groups that you have reported. This total should agree with your shipments for that section. If your shipments are greater than the individual items you have reported, you may have omitted an item(s). If this is the case, please insert those items omitted. If, however, your shipments are less than the individual item reported, you may have double counted one or more items.

Item

code Product group

1099 Total power wire & cable
1199 Total electronic wire & cable
1299 Total telephone and telegraph wire & cable
1399 Total building wire & cable
1499 Total control and signal wire & cable
1599 Total other insulated wire & cable
1699 Total apparatus wire & cordage
1799 Total magnet wire
1899 Total optical fiber cable
1999 Total optical fiber for data and nondata transmissions

3. Columnar structure of report

When posting your figures to the report, please be sure to report the information in the correct columns. These are:

SECTION I — VII— INSULATED WIRE & CABLE, OTHER THAN MAGNET WIRE.

Column 1 — Value in thousands of dollars for total shipments. Example: \$1,000,000, report as \$1,000.

SECTION VIII — MAGNET WIRE

The U.S. Government specification for magnet wire, MW 1000, should be used as the guide for determining the thermal classification of magnet wire.

Column 1 — Value of copper wire (including insulation) in thousands of dollars for total shipments. Example: \$1,000,000, report as \$1,000.

SECTION IX — FIBER OPTICAL CABLE MADE FROM PURCHASED FIBER OPTIC STRAND (Item codes 1800–1899)

Column 1 — Value (Report in thousands of dollars the value of optical fiber cable, including insulation). Example: \$1,000,000, report as \$1,000.

SECTION X — OPTICAL GLASS FIBER MADE FROM PURCHASED GLASS (Item codes 1900–1999)

Column 1 — Value (Report in thousands of dollars the value of optical fiber). Example: \$1,000,000, report as \$1,000.

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DEFINITIONS AND SPECIAL INSTRUCTIONS — Continued

4. Definitions

INSULATED WIRE — A rod of drawn metal filament covered with insulation.

INSULATED CABLE — A number of conductors twisted or grouped together.

Dual rated products should be classified according to their higher ratings.

Multi-insulated cables should be classified according to their primary insulation, i.e., the layer of material designed to do the electrical insulating, usually the first layer of material applied over the conductor.

GROSS WEIGHT — *Include* insulating materials but *exclude* packaging materials.

INSULATION — A non-conductive material usually surrounding or separating two or more conductive materials.

THERMOPLASTIC — Insulation that will soften and distort from its formed shape by heating above a critical temperature peculiar to the material.

THERMOSETTING — Insulation that will not resoften or distort from its formed shape by heating until a destructive temperature is reached.

ARMOR — The outer layer of a cable applied for mechanical protection, usually consisting of a layer or layers of a metallic tape, braid, or several wires.

CROSS-LINKED — Intermolecular bonds produced between long chain molecules in a material to increase molecular size by chemical or electron bombardment, resulting in a change in physical properties in the material usually improved properties.

ELASTOMER — Any elastic rubber-like substance, such as natural or synthetic rubber; when stretched to twice its length will resume approximately the original shape.

JACKET — A covering put around an insulated conductor for the purpose of protection and/or resistance.

INSULATED WIRE & CABLE — All insulated wire and cable for transmitting electrical energy, signals, or communications. Exclude bare and tinned wire and cable and ACSR.

ELECTRONIC WIRE & CABLE — All single and multi-conductor wire & cable used for transmission, reception, or reproduction of electrical frequencies (16 gauge and smaller). Excludes telephone cable. See Apparatus Wire & Cordage for larger gauges.

SEMI-RIGID — A cable containing a flexible inner core and a relatively inflexible sheathing.

COAXIAL CABLE — Cable consisting of two or more cylindrical conductors with a common axis. The two conductors are separated by a dielectric for use as high frequency transmission lines and communication systems.

HOOK-UP WIRE, SINGLE CONDUCTOR — Single conductor wire (16 AWG and smaller) used for internal equipment wiring.

RIBBON CABLE — A cable consisting of two or more conductors laid parallel in one plane and held in place by the insulation or some other means.

MULTI-CONDUCTOR CABLE — More than one conductor within a single cable complex.

SHIELDED CABLE — Constructed so that substantially every point on the insulation is at ground potential or some pre-determined potential with respect to ground.

TELEPHONE WIRE & CABLE — All wire & cable used in the telephone industry to transmit, receive, and monitor communications signals. Excludes coaxial and other electronic wire & cable.

DROP WIRE — Service drop from pole to subscribers house: parallel, twisted or dumbbell style.

BRIDLE WIRE — For connection of open wire and terminals or protectors and as apparatus leads.

TELEPHONE CORD SETS — Cut lengths of wire with terminals or connectors for use in telephone hand or head set applications and telephone line cords.

4. Definitions — Continued

POWER CABLE — Single and multi-conductor cable, insulated with dielectric insulation, either thermosetting or thermoplastic, shielded or unshielded, jacketed or unjacketed and armored or unarmored.

Include:

- Airport lighting cable
- Bus drop cable
- Cathodic protection cable
- Network cable
- Oil tray cable
- Overhead line wire
- Pole and bracket cable
- Power tray cable
- Service drop and secondary cable
- Submarine power cable
- Submersible pump or water well cable
- Weatherproof cable
- Aerial spacer cable
- Oil well cable (armored and unarmored)
- Power cable
- Street lighting cable

Exclude:

- Insulated single conductor with UL label
- Secondary underground distribution cables
- Single conductor multiplexed or paralleled reported as 0-2kv BX and AC wire
- Portable power cables
- UD cables
- Mine power feeder cable

POWER CABLE, UNDERGROUND CABLE (US) — Single, multiplex, or paralleled solid dielectric insulated cable with or without concentric neutral cable with or without concentric neutral (either thermosetting or thermoplastic insulation) and specifically used for residential and/or commercial services and/or feeders. Exclude single conductor UL labeled USE.

CONTROL AND SIGNAL WIRE & CABLE — Any solid dielectric insulated (thermosetting or thermoplastic), jacketed or unjacketed cable, multi-conductor, rated 2500V or less, sized 22AWG through 9AWG, utilized to operate control valves and relays, or to implement or record an event (but does not supply the energy being controlled in the event); also utilized to actuate, power and control railroad signaling, warning or crossing protective devices; or utilized to actuate or control fire alarm circuits.

Include

- Signal cable — less than 16AWG or less than 2kv
- Control cable — 9AWG and smaller, 2kv or less than 300V
- Fire alarm cable
- Submarine control cable
- Instrumentation cable
- Railroad signal cable
- Traffic control and signal cable

PORTABLE CROSS LINKED JACKETED CABLE

Include:

- Shielded and non-shielded
- Round types: SO, W, G, PG, PCG, SH, AND SH-A, B, C, D, and GGC
- Types SO, SJO, AND SJO shielded and unshielded
- Twin or triple types W and G
- Locomotive Gathering reel
- Battery
- Concentric
- Elevator Control
- Grounding cable
- High tension
- Trolley bus
- Magnet Crane
- Motor Lead
- Power Jumper
- Railway Utility
- Sand Cutter
- Train Jumper

PORTABLE NON-CROSS LINKED JACKETED CABLE — All portable cable not bearing UL flexible cord or appliance wiring material label. Include thermoplastic mining machine cable; thermoplastic and thermoset mine power feeder. Exclude welding cable.

BUILDING WIRE — All wire & cable (601 volts or less) used within structures for light and power for permanent installation. Includes service entrance cable.

APPARATUS WIRE & CABLE — Insulated wire & cable used in connecting electrical apparatus to a power source, and appliance wiring material (22 AWG and heavier including motor lead and transformer lead wire). See electronic wire & cable for appliance wiring material finer than 22 AWG.

CORD SETS — Portable cords, fitted with any type of wiring device at one or both ends.

CORD — A small, flexible, multiple-conductor cable.

APPLIANCE WIRING MATERIAL — Insulated wire & cable intended for internal wiring of appliances and equipment.

FLEXIBLE CORDAGE (Flexible cord, portable cord, or appliance cord) — Cordage of two or more conductors, normally used for electrical and electronic appliances, tools, and business machines.

OTHER APPARATUS WIRE & CORDAGE (Including machine tool wire) — Other types such as battery cable: non-transportation uses, defroster wire, and electric furnace cable.

4. Definitions — Continued

OTHER WIRE & CABLE — Includes bulk automotive battery and ignition wire, elevator hatch and traveling cable, weatherproof cable, and air-frame, shipboard, and ground support cable.

BULK AUTOMOTIVE PRIMARY WIRE — Used for low voltage lighting and control circuits, including wiring for automotive harnesses.

BULK BATTERY CABLE — Used for positive and negative cables, switch to starter cables.

BULK IGNITION WIRE — High tension (5mm or 7mm) shielded or unshielded for internal combustion engines.

BATTERY CABLE SETS — Cut lengths of wire with ends prepared for connection between automotive battery and starter, battery and battery, battery and ground or switch to starter.

MAGNET WIRE, including insulated magnet strip conductor — all insulated wire of the type generally used in the winding of coils, including Litz wire and including insulated magnet sheet, strip, and foil. The thermal classification for bondable wires should be determined by the underlying insulation. Also, the combination (film-fabric) product should be classified based on the insulation on the top side.

LITZ WIRE — Litz wire refers to multistrand construction of small gauge film insulated wire that is precision twisted. This construction minimizes the power loss related to the "skin effect" of current at radio frequencies.

OPTICAL FIBER — Optical Fiber used for data purposes - A long thin strand of transparent glass, plastic or other materials usually consisting of a fiber optical core and a fiber optical cladding capable of conducting light along its axial length by internal reflection, used in the transmission of voice, video, and/or data information.

ALL GLASS OPTICAL FIBER (single mode) — An optical fiber consisting of a glass core and glass cladding that supports the propagation of only one mode, or ray, of light at a time.

ALL GLASS FIBER (multimode) — An optical fiber consisting of a glass core and a glass cladding that supports the propagation of more than one mode, or ray, of light at a time.

PLASTIC CLAD GLASS FIBER — An optical fiber with a glass core and a plastic optical cladding.

ALL PLASTIC OPTICAL FIBER — An optical fiber

consisting of a plastic optical core and a plastic optical cladding.

NONCOHERENT BUNDLE — A collection of optical fibers arranged randomly for the purpose of transmitting light but not images.

COHERENT BUNDLE — A collection of optical fibers arranged non-randomly to permit the transmission of images, excluding faceplates and sensors.

FACEPLATE — A fused coherent bundle used for the transmission of images over a short distance, excluding sensors.

SENSORS — Optical fibers used in apparatus designed to detect or sense environmental effects such as pressure, temperature, magnetic, electric fields, rotation, etc.

5. Abbreviations

C	Centigrade
AWG	American wire gauge
UD	Underground distribution
URD	Underground residential distribution
UL	Underwriters laboratory
USE	Underground service entrance cable, 75 c wet location
KV	Kilovolt (1000 volts)
R	Rubber insulated
RH	Rubber insulated, heat resistant cable, 75 c dry location
RHH	Rubber insulated, heat resistant cable, 90 c dry locations
RHW	Rubber insulated, heat and moisture resistant, 75 c dry and wet locations
XHHW	Cross-linked polyethylene insulated, 90 c dry location, 75 c wet location
THHN	Thermoplastic insulated, high heat resistant, nylon jacketed cable, 90 c dry location.
THWN	Thermoplastic insulated, heat and moisture resistant, nylon jacket cable, 75 c dry and wet location
TW	Thermoplastic insulated, moisture resistant cable, 60 c wet or dry location

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DEFINITIONS AND SPECIAL INSTRUCTIONS

5. Abbreviations — Continued

<i>THW</i>	Thermoplastic insulated, heat and moisture resistant cable, 75 c dry and wet location
<i>SER</i>	Round service entrance cable (rubber)
<i>SEU</i>	Service entrance cable (unarmored)
<i>SEA</i>	Service entrance cable (armored)
<i>NM</i>	Designation for nonmetallic sheathed cable, building wire
<i>NMC</i>	Nonmetallic sheathed cable, corrosion resistant, 60 c wet or dry location
<i>UF</i>	Underground feeder cable, thermoplastic insulated, 60 c wet or dry location
<i>AC</i>	Alternating current
<i>MI</i>	Mineral insulated 85 c dry and wet location, 250 c special application
<i>PIC</i>	Thermoplastic insulated
<i>PULP</i>	Paper and pulp insulated

6. Comparability

If you report in the Annual Survey of Manufactures (Form MA-10000), the sum of values for item codes shown in column (a) should correspond to dollar values reported under product codes indicated in column (b) below.

Current Industrial Report (Form MA335J)	Annual Survey of Manufactures (Form MA-10000)
Item codes (a)	Product class (b)
1000 through 1015	3359291
1100 through 1110	335929A
1200 through 1205	335929B
1300 through 1315	335929D
1400 through 1410	335929F
1500 through 1505	335929F
1600 through 1630	3314224
1700	331491H
1800 through 1805	3359210
1900 through 1905	327215B

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REFERENCE LIST

FORM MA335J		
INSULATED WIRE & CABLE (SHIPMENTS)		
Product code	Item code	Item description
		Section I — POWER WIRE & CABLE, INCLUDING PORTABLE (<i>Exclude fiber optics</i>)
3359291802	1000	Plastic and rubber insulated, 2KV or less, portable welding cable
3359291803	1005	Underground distribution cable (UD, URD), all insulations
3359291804	1010	Thermoplastic insulated power cable (excluding underground), 2KV or less
3359291805	1015	Thermoset insulated power cable (excluding underground)
3359291899	1098	Other power wire & cable, including portable
3359291	1099	Total power wire & cable (<i>Sum of item codes 1000—1098</i>)
		Section II — ELECTRONIC WIRE & CABLE, INCLUDING PRODUCTS FABRICATED FROM WIRE & CABLE (<i>Exclude fiber optics</i>)
335929A101	1100	Coaxial cable, armored or nonarmored
335929A102	1105	Hook-up wire, (single conductor, shielded and nonshielded)
335929A103	1110	Multiconductor electronic wire & cable (shielded and unshielded)
335929A104	1198	Other electronic wire & cable
335929A	1199	Total electronic wire & cable (<i>Sum of item codes 1100–1198</i>)
		Section III — TELEPHONE AND TELEGRAPH WIRE AND CABLE, INCLUDING PRODUCTS FABRICATED FROM WIRE AND CABLE (<i>Exclude fiber optics</i>)
335929B101	1200	Station wire & cable
335929B102	1205	Inside wiring cable
335929B103	1298	Other telephone and telegraph wire and cable, including products fabricated from wire & cable (excluding fiber optics)
335929B	1299	Total telephone and telegraph wire & cable (<i>Sum of item codes 1200–1298</i>)

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REFERENCE LIST — Continued

FORM MA335J		
Product code	Item code	Item description
Section IV— BUILDING WIRE & CABLE (<i>Exclude fiber optics</i>)		
335929D109	1300	Thermoset insulated, cross-linked polyethylene
335929D110	1305	Thermoplastic insulated
335929D111	1310	Service entrance cable (SER, SEU, ASE)
335929D112	1315	Non-metallic branch-circuit and underground feeder
335929D199	1398	Other building wire & cable, including metallic armored cable (AC and MC type) and underground feeder
335929D	1399	Total building wire & cable (<i>Sum of item codes 1300–1398</i>)
Section V — CONTROL AND SIGNAL WIRE & CABLE (<i>Exclude fiber optics</i>)		
335929F101	1400	Signal wire & cable
335929F102	1405	Control wire & cable (exclude elevator cable): Thermoset insulated
335929F103	1410	Thermoplastic insulated
335929F	1499	Total control and signal wire & cable (<i>Sum of item codes 1400–1410</i>)
Section VI— OTHER INSULATED WIRE & CABLE INCLUDING PRODUCTS FABRICATED FROM WIRE & CABLE (<i>Exclude fiber optics</i>) (<i>Exclude appliance wire and cord and flexible cord sets, ignition harness sets, cable sets, etc.</i>)		
335929F104	1500	Automotive wire & cable
335929F105	1505	Airframe, missile shipboard, and ground support cable (exclude coaxial cable and ignition cable)
335929F106	1598	Other insulated or covered wire & cable, not elsewhere classified
335929F	1599	Total other insulated or covered wire & cable (<i>Sum of item codes 1500–1598</i>)

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REFERENCE LIST — Continued

FORM MA335J		
Product code	Item code	Item description
		Section VII — APPARATUS WIRE & CORDAGE INCLUDING PRODUCTS FABRICATED FROM WIRE & CABLE (<i>Exclude fiber optics</i>)
		Flexible cordage:
3314224101	1600	Thermostat insulated
3314224102	1605	Thermoplastic (include thermoplastic elastomers)
3314224103	1610	Extension cord sets
3314224104	1615	Power supply cords
		Apparatus wire:
3314224105	1620	Appliance fixture wire
3314224106	1625	Appliance wiring material 14 gauge and larger (include motor lead and transformer lead wire), thermoset and thermoplastic insulated
3314224107	1630	Submersible pump cable
3314224108	1698	Other apparatus wire & cordage (include machine tool wire)
3314224	1699	Total apparatus wire & cordage (<i>Sum of item codes 1600–1698</i>)
		Section VIII — MAGNET WIRE (<i>Include insulated magnet sheet, strip, and foil but exclude fiber optics</i>)
331491H199	1799	Magnet wire, film and nonfilm coated
		Section IX — FIBER OPTICAL CABLE MADE FROM PURCHASED FIBER OPTIC STRAND
3359210201	1800	Communication applications, single-mode stepped index
3359210202	1805	Communication applications, multi-mode index
3359210203	1898	Other applications
3359210	1899	Total fiber optical cable (<i>Sum of item codes 1800–1898</i>)
		Section X — OPTICAL GLASS FIBER MADE FROM PURCHASED GLASS
327215B235	1900	Optical glass fiber, made from purchased glass, used for data purposes
327215B238	1905	Optical glass fiber, made from purchased glass, used for nondata purposes
327215B	1999	Total optical glass fiber for data and nondata transmission (<i>sum of item codes 1900 and 1905</i>)